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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Ole Kaae Hansen

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EXAMINER

CLARK, AMY LYNN

ART UNIT

PAPER NUMBER

1655

MAIL DATE

DELIVERY MODE

11/14/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/519,112	Applicant(s) HANSEN, OLE KAAE	
	Examiner Amy L. Clark	Art Unit 1655	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 July 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2 and 4-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2 and 4-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Acknowledgment is made of the receipt and entry of the amendment filed on 07/07/2008 with the amendment of claim 1.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Response to Arguments

Claim Rejections - 35 USC § 103

Newly amended claim 1 is rejected and claims 2 and 4-8 remain rejected under 35 U.S.C. 103(a) as being unpatentable over Oura et al. (A*, US 4,229,483), in view of Noller (U*, Ann Rev Biochem. 1945; 14: 383-406) and Vogel et al. (V*, "Fermentation and Biochemical Engineering Handbook-Principles, Process Design and Equipment (2nd Edition)").

This rejection is maintained for reasons of record set forth in the paper mailed on 02/07/2008 and repeated below, slightly altered to take into consideration Applicant's amendment filed on 07/07/2008.

Applicant's arguments have been thoroughly considered, but the rejection remains the same for the reasons set forth in the previous Office action and for the reasons set forth below.

Oura teaches a method of preparing an aqueous extract of fine shea nut meal (please note that shea nut meal is a saponin-containing waste product from a shea butter tree and that the shea nut meal is filtered and ground prior to extraction, See

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column 2, lines 48-51 and lines 55-66) comprising the steps of treating shea nut meal with a medium selected from the group consisting of water and 10-99% (W/V) aqueous ethanol solution at a temperature of 10 °C-80 C., wherein the water is used in an amount of more than 2.5 times and 0.05 to 5 times, respectively, as much as the volume of the shea nut meal to be treated (See claim 1), mixing the shea nut meal with a 10-99% (w/v) aqueous ethanol solution, whereby the alcohol solution may be used in an amount of 0.05 to 5 times as much as the volume of shea nut meal (See column 3, lines 29-30 and 33-35) in the presence of an alkali, wherein the alkali is used in the form of an aqueous solution (See column 3, lines 59-68 and continued into column 4, lines 1-8 and claim 5), which reads on buffer, at a pH of 7.15 or 7.41 (See column 6, table 2) and the solids can be removed by filtration from a liquid medium (See column 7, Example 32). Oura further teaches the washing of the shea nut meal can be carried out at a temperature of 10 to 80 °C (See column 3, lines 19-22) and that treatment with an alcohol solution can be carried out a temperature of 10 to 80 °C or by soaking the shea nut meal in the alcohol solution for a period of 30 minutes to overnight (See column 3, lines 30-39). Oura further teaches that the solution can be treated to 100 to 160 °C for a period of 10 to 60 minutes (See column 3, lines 40-45). Oura further teaches that the solution can be filtered under reduced pressure and after cooling the solution, the shea nut meal may be dried and/or ground (See column 3, lines 55-58). Oura further teaches that the shea nut meal treated by heating is present in a solution in an amount of up to 10% by weight, usually in a range of 0.5-5% by weight and may be used in a large amount (See column 5, lines 2-6). Oura further teaches that the composition may be in

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the form of a powder, pellets, a slurry, an emulsion, an aqueous suspension or the like (See column 4, lines 46-54). Oura further teaches that shea nut meal may be treated with a medium, such as water, wherein the water used is in an amount of more than 2.5 times and 0.05 to 5 times, respectively, the amount of the shea nut meal to be treated (See column 9, claim 1). Oura further teaches that the solution of water and shea nut meal may be subject to heat treatment and the heat treatment may be carried out in the presence of a 1-10% by weight 1N aqueous solution of acid (See column 9, claims 2-4 and continued into column 10). Oura does not expressly teach that the aqueous extract contains saponins, however, saponins are intrinsic to shea nut press cake (See Noller, page 385), which is synonymous with shea nut meal.

Oura does not teach a step of filtration or centrifugation. However, Vogel teaches that solid liquid separation process can be accomplished by filtration or centrifugation (See page 558). Vogel further teaches that evaporation is the removal of a solvent as a vapor from a solution or slurry and that the demand of an evaporator is to concentrate a feed stream by removing a solvent which is vaporized in the evaporator and, for the greatest number of evaporator systems, the solvent is water and that the "bottoms" product is a concentrated solution, a thick liquor, or possibly a slurry and is most usually the desired and valuable product (See page 476).

The teachings of Oura, Noller and Vogel are set forth above and applied as before. Oura does not expressly teach a method for preparing saponins, nor does Oura teach a step of filtration or centrifugation, nor does Oura teach an incubation step is performed at a temperature of between 15 and 95 °C and over a period of between 10

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minutes and 5 hours, nor does Oura teach removing solids by centrifugation, nor does Oura teach obtaining an extract containing at least 1 % by weight dry matter, nor does Oura teach further concentrating the shea nut meal by evaporation. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method taught by Oura to provide the instantly claimed invention because at the time the invention was made, it was known in the art that an aqueous extract of shea nut contains saponins, as clearly taught by Noller, as was a method of obtaining an aqueous extract of shea nut meal comprising the steps of washing the shea nut meal with water, wherein the amount of water is more than 2.5 times as much as volume of the shea nut meal, mixing the shea nut meal with a 10-99% (w/v) aqueous ethanol solution, whereby the alcohol solution may be used in an amount of 0.05 to 5 times as much as the volume of shea nut meal in the presence of an alkali, wherein the alkali is used in the form of an aqueous solution and the solids can be removed by filtration from a liquid medium. It was also known that washing the shea nut meal can be carried out at a temperature of 10 to 80 °C and that treatment with an alcohol solution can be carried out a temperature of 10 to 80 °C or by soaking the shea nut meal in the alcohol solution for a period of 30 minutes to overnight, that the solution can be treated to 100 to 160 °C for a period of 10 to 60 minutes, that the solution can be filtered under reduced pressure and after cooling the solution, the shea nut meal may be dried and/or ground and that the shea nut meal treated by heating is present in a solution in an amount of up to 10% by weight, usually in a range of 0.5-5% by weight and may be used in a large amount, as was that solid liquid separation process can be

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accomplished by filtration or centrifugation.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method taught by Oura to provide the instantly claimed invention because it would have been merely a matter of judicious selection to one of ordinary skill in the art at the time the invention was made to modify the referenced composition because it would have been well in the purview of one of ordinary skill in the art practicing the invention to pick and choose a temperature and time period over which a solution is incubated, to pick and choose a method of obtaining a saponin-rich extract of shea nut meal by separating solids from a liquid solution, to pick and choose an amount of dry matter present in an extract and to pick and choose a suitable method for obtaining or drying (evaporating the solvent from) the shea nut meal extract, as clearly taught by Oura and Vogel. Furthermore, since centrifugation is a suitable alternative to filtration for separating solids from liquids and concentration by evaporation is a suitable method for drying or concentrating a solution, as was well known in the art at the time the invention was made, as clearly taught by Vogel, the claimed invention is no more than the routine optimization of a result effect variable.

Finally, one of ordinary skill in the art would have been motivated and one would have had a reasonable expectation of success to modify the method taught by Oura because at the time the invention was made, it was known that an aqueous extract of fine shea nut meal inherently contains saponins, as taught by Noller, and all of the method steps are taught by both Oura and Vogel. Therefore, it would have been merely a matter of judicious selection to one of ordinary skill in the art at the time the invention

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was made to modify the referenced composition because it would have been well in the purview of one of ordinary skill in the art practicing the invention to pick and choose a temperature and time period over which a solution is incubated, to pick and choose a method of obtaining a saponin-rich extract of shea nut meal by separating solids from a liquid solution, to pick and choose an amount of dry matter present in an extract and to pick and choose a suitable method for obtaining or drying (evaporating the solvent from) the shea nut meal extract.

Based upon the beneficial teachings of the cited references, the skill of one of ordinary skill in the art, and absent evidence to the contrary, there would have been a reasonable expectation of success to result in the claimed invention.

Accordingly, the claimed invention was prima facie obvious to one of ordinary skill in the art at the time the invention was made, especially in the absence of evidence to the contrary.

Applicant argues that Oura teaches discarding the aqueous phase of the extraction process and shows the steps involved in Applicant's process versus those taught by Oura.

However, this is not found persuasive because Oura expressly teaches that shea nut meal is treated with water, teaches that the shea nut meal is soaked in water for the time period claimed by Applicant and may be treated with an alkaline solution to provide a solution with the pH claimed by Applicant and teaches all of Applicant's other claimed steps in the order that Applicant claims. Based upon the teaching of Oura, it appears that the order of method steps are one and the same as Applicant. Furthermore, since

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Applicant is claiming a process of extracting saponins from shea butter cake meal, extraction of saponins from shea butter cake meal is taught by Oura because the process taught by Oura, which is one and the same as that claimed by Applicant, would arrive at an extract of shea nut butter cake meal containing saponins. Irrespective of whether Oura keeps the extraction liquid or not (please note that Oura does not expressly teach discarding the liquid), the extraction liquid contains what Applicant is claiming.

No claims are allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Amy L. Clark whose telephone number is (571)272-1310. The examiner can normally be reached on Monday to Friday between 8:30am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terry McKelvey can be reached on (571) 272-0775. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Amy L. Clark
AU 1655

Amy L. Clark
October 28, 2008

/Michele Flood/
Primary Examiner, Art Unit 1655